

REMARKS

Claims 1-4, 13 and 15-16 are pending. Claim 13 is amended herein. Specifically, claim 13 has been amended to incorporate the features of original claim 14. Claim 14 has been cancelled herein without prejudice or disclaimer.

Applicants' Response to the Claim Rejections under 35 U.S.C. §102(a) or (e)

Claims 1-4 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by Ghinovker '833 (US 7,068,833 al). Applicants respectfully traverse on the basis that Ghinovker '833 does not teach each and every limitation of the claimed invention. Specifically, Ghinovker fails to disclose a "micronized pattern having a pattern forming margin larger than a pattern forming margin which a device pattern formed over the semiconductor wafer has," as required by current claim 1.

The Office relies on Ghinovker '833 as disclosing, in FIGs. 2-5B, an overlay mark 70 which includes working zones 72. Further, each of the working zones 72 contains individual periodic structures 74 each of which includes a plurality of coarsely segmented lines 76. Each of the coarsely segmented lines 76 is formed by a number of sub-structures or finely segmented elements 78.

The Office regards the coarsely segmented lines 76 and the finely segmented elements 78 disclosed in Ghinovker '833 as equivalent to a plurality of alignment marks and a micronized pattern in claim 1, respectively. Particularly, the Office asserts that Ghinovker '833 discloses this limitation in lines 60-68, column 4. However, in lines 60-68, column 4, Ghinovker '833

only states that “[e]ach of these structures is composed of sub-structures that are about the same size and pitch (e.g., separation) as structures of the actual integrated circuit.” That is, Ghinovker ‘833 only teaches that the sub-structures, specifically the finely segmented elements 78, are designed to be about the same size and pitch as structures of the actual integrated circuits. The same is found in the last paragraph in column 12 that “... the feature size and pitch ... of the finely segmented elements are substantially equal to, those of the critical device features ...”

Based on the above, it is evident that the design of the sub-structures disclosed in Ghinovker ‘833 do not correspond to the limitation “the micronized pattern having a pattern forming margin larger than a pattern forming margin which a device pattern has” in claim 1. Ghinovker ‘833 only teaches the design of the sub-structures in the overlay mark which is completely different from that of the present invention. Wherefore, applicants respectfully submit that Ghinovker ‘833 does not teach each and every limitation of the claimed invention; and therefore, cannot anticipate the currently claimed invention of claim 1 and its dependent claims under 35 U.S.C. §102.

Claims 13-16 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by Ghinovker ‘833 (US 7,068,833 al). As noted above, claim 13 has been amended to incorporate the features of claim 14. In regard to amended claim 13, applicants respectfully traverse on the basis that Ghinovker ‘833 does not teach each and every limitation of the claimed invention. Specifically, Ghinovker ‘833 does not teach that positions of the divisions between the plurality

of segments of the lines are offset from those of the divisions between the plurality of segments of their adjacent lines.

In FIG. 2 of Ghinovker '833, the finely segmented elements 78 in the working zones 72A and 72D are represented by dashed lines while the finely segmented elements 78 in the working zones 72B and 72C are represented by solid lines. The dashed lines are used for the working zones 72A and 72D so as to illustrate that the working zone 72A and 72D are formed in one layer of the wafer while the working zones 72B and 72C are formed in a different layer of the wafer (see lines 31- 34, column 6 and lines 53-56, column 8). FIG. 2 does not illustrate "the plural lines being divided into a broken line having a plurality of segments which are arranged in the first direction only." Rather, Ghinovker '833 teaches that the finely segmented elements 78 may be discontinuous linear formations that are segmented at regular intervals or continuous linear formations (see lines 43-53, column 9). As such, Ghinovker '833 only teaches that the finely segmented elements 78 may be discontinuous linear formations that are segmented at regular intervals.

Ghinovker '833 never teaches nor suggests how the positions of the divisions in the discontinuous linear formations are designed. The elements 78 represented by dashed lines in FIG. 2 only illustrate that the working zones are formed in different layers. FIGs. 3-5B are partial side elevation views of the periodic structure 74 including the lines 76 and elements 78. Therefore, as illustrated in these figures from Ghinovker '833, it is evident that the partial side elevation views cannot teach offsetting the positions of the divisions between the plurality of

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segments of the lines, which is a planner structural matter. In other words, FIGs. 2-3B do not teach or even suggest for offsetting the positions of the divisions.

Based on the above, applicants respectfully submit that Ghinovker '833 does not teach the feature of amended claim 13 requiring that positions of the divisions between the plurality of segments of the lines are offset from those of the divisions between the plurality of segments of their adjacent lines. Wherefore, amended claim 13 is not anticipated under 35 U.S.C. §102.

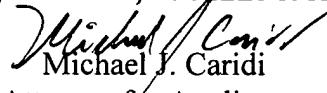
In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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